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REMARKS

Applicant's attorney thanks the Examiner for his comments. Claim 1 is amended to recite that the absorbent binder desiccant composition comprises water and a water-soluble ionic polymer having an alkoxysilane functionality which is capable of sufficient moisture-induced crosslinking... Amended Claim 1 also recites that the absorbent binder desiccant crosslinks by hydrolysis of the alkoxysilane functionality and subsequent removal of the water after the absorbent binder desiccant composition is applied to a substrate. Claims 14 and 25 have been amended to recite similar limitations, using language consistent with those claims. Support is found on page 5 line 20 – page 6 line 2, page 6 line 26 – page 7 line 3, and page 7 lines 18-24 of the specification. New Claims 36 and 37 recite the limitations deleted from previous Claims 14 and 25.

a) Claim Rejections Based On Harada et al.

The rejection of Claims 1-33 under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,853,867 (Harada et al) is respectfully traversed. Harada et al discloses an absorbent polymer composition which does not include water along with an alkoxysilane functionality, as required by Applicant's claims. Accordingly, the disclosed composition does not crosslink by hydrolysis of an alkoxysilane functionality and subsequent removal of water, after application to a substrate, as required by Applicant's claims.

The disclosed absorbent polymer composition includes a cationic absorbent polymer and an anionic absorbent polymer (Col. 4 lines 23-25). One of the polymers (i.e. the cationic polymer) is already in a crosslinked particulate form, before it is mixed with the anionic polymer (Col. 4 line 54 – Col. 5 line 10). Crosslinking is induced by means of a chemical crosslinking agent (Col. 5 lines 1-4). The anionic polymer, which is formed from an aqueous medium, is completely polymerized and dried (i.e. all water is removed) before it leaves a polymerization vessel (Col. 6 lines 48-56). The anionic polymer is also in a dry, particulate form when it contacts the crosslinked cationic polymer particles (Col. 7 lines 17-32).

The binding function is apparently achieved by mixing the cationic absorbent polymer with a monomer solution, and polymerizing the monomer solution while on a substrate (Col. 5 lines 20-30). The anionic polymer particles are then pressed

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into the cationic polymer particles (Col. 17 lines 17-26). In summary, the disclosure of Harada et al is completely different from Applicant's invention, and does not render any of Applicant's claims obvious. This rejection should be withdrawn.

b) Claim Rejections Based On Gander

The rejection of Claims 1-33 under 35 U.S.C. § 102(b) as anticipated by or under 35 U.S.C. § 103(a) as obvious over U.S. Patent 3,951,893 (Gander) is respectfully traversed. As to Claims 1 and 25, Gander does not disclose a water-soluble ionic polymer capable of sufficient moisture-induced crosslinking at about 120° C or less, to reach an absorbent capacity of at least one gram per gram. As to Claims 1, 14 and 25, Gander does not disclose an absorbent binder desiccant composition which crosslinks by hydrolysis of an alkoxy silane functionality and subsequent removal of water after the absorbent binder desiccant composition is applied to a substrate.

Gander discloses a silane crosslinked polymer produced by solution polymerization of first and second polymers in the presence of a silane crosslinking agent. The solvent is an organic solvent (Col. 5 lines 37-52). The solution is stirred and swept with nitrogen, and the polymerization proceeds at temperatures of 75-90° C (Col. 5 lines 53-65). The crosslinking occurs during subsequent removal of the organic solvent (Col. 5 line 66 – Col. 6 line 10).

By the time the organic solvent is removed, the polymer is already formed and crosslinked. Thus, the resulting polymer (already crosslinked) is not water-soluble or capable of moisture-induced crosslinking. The primary difference between the disclosure of Gander and Applicant's Claim 1 is that Gander does not start with an already-formed polymer that is capable of moisture-induced crosslinking. Instead, Gander proceeds from a reaction mixture of monomers, crosslinking agent and organic solvent, to a crosslinked polymer, and provides no opportunity for an already formed (but not yet crosslinked) polymer to exist in an aqueous environment.

Furthermore, Applicant's claims are directed to an absorbent binder desiccant composition capable of binding to one or more substrate layers. What makes the composition effective as a binder is that an aqueous polymer solution is first applied to a substrate, and then dried so that the moisture-induced crosslinking effects binding to the

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substrate. The condensation reaction which effects crosslinking and binding is summarized on page 19 lines 7-16 of Applicant's specification. This condensation reaction requires that the absorbent binder composition (prior to crosslinking) is combined with water, as recited in the claims.


The polymer formed by Gander does not have significant binding characteristics. The combination of polymer with organic solvent is spread on a coated paper substrate and is dried, resulting in a film which can be easily removed from the substrate (Col. 6 lines 6-10). The film has slight cohesive properties, but exhibits no significant binding to a substrate (Col. 6 lines 30-32). Gander does not disclose combining a polymer with water, to facilitate moisture-induced crosslinking as recited in Claim 1.

For at least these reasons, Gander does not anticipate or render obvious any of Claims 1-33. This rejection should be withdrawn.

c) Conclusion

Applicant believes that the claims, as now presented, are in condition for allowance. If the Examiner finds that any issue remains unresolved, then Applicant's attorney respectfully requests a telephone call from the Examiner, and a telephone interview.

Respectfully submitted,



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